

(19)



Europäische Patentamt

European Patent Office

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(11)

**EP 1 076 126 A2**

(12)

**EUROPEAN PATENT APPLICATION**

(43) Date of publication:

14.02.2001 Bulletin 2001/07

(51) Int. Cl.<sup>7</sup>: **D06C 23/00, D06B 11/00**

(21) Application number: **00116941.6**

(22) Date of filing: **07.08.2000**

(84) Designated Contracting States:

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**

Designated Extension States:

**AL LT LV MK RO SI**

(30) Priority: **11.08.1999 IT PC990031**

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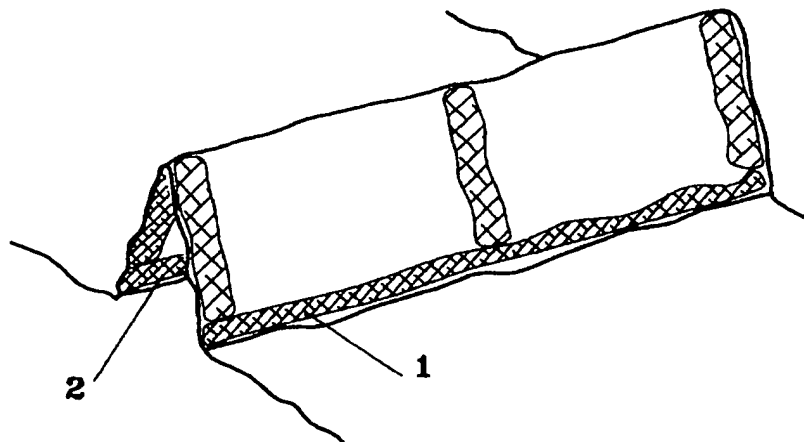
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(54) **Method of forming raised creases on garments and garments obtained thereby**

(57) This invention relates to a method of forming raised creases on made-up garments and/or cut fabrics, and the garments obtained by the said method.

In particular, the invention involves applying a layer of adhesive material to the wrong side of the fabric of a garment in correspondence with the areas in which the crease is to be obtained, folding the fabric and joining the opposite surfaces of the crease on the wrong side of

the fabric, and possibly subjecting the garment to aging and/or fading treatment using common techniques such as stone-washing and the like. This system produces garments with substantially permanent raised creases giving a worn look, which can be chosen as required and used to produce the desired effect on the garment.



**Fig. 2**

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## Description

[0001] This invention relates to a method of forming raised creases on made-up garments and/or cut fabrics, and the garments obtained by the said method.

[0002] In particular, the invention involves applying a layer of adhesive material to the wrong side of the fabric of a garment in correspondence with the areas in which the crease is to be obtained, folding the fabric and joining the opposite surfaces of the crease on the wrong side of the fabric, and possibly subjecting the garment to aging and/or fading treatment using common techniques such as stone-washing and the like. This system produces garments with substantially permanent raised creases giving a worn look, which can be chosen as required and used to produce the desired effect on the garment.

[0003] In the fashion trade, in which new ideas and effects are constantly being sought, garments and fabrics may undergo various kinds of processing designed to produce signs of wear, even on new fabrics and garments.

[0004] Different methods of obtaining these effects are known, ranging from stone-washing, abrasion methods using tools of various kinds, chemical methods such as bleaching and fading, and systems involving various kinds of mechanical actions such as brushing, scratching and the like.

[0005] Italian patent no. 1,296,222 describes a process for producing signs of creasing, crumpling, etc. of random shape on made-up garments, comprising the stages of:

- crumpling and/or crushing the garment
- subsequently treating it with techniques that modify the surface colour of the more or less exposed parts.

[0006] This invention, which relates to a method of producing raised creases with a random or pre-determined pattern on made-up garments in order to improve the appearance of the product, falls into this sector.

[0007] The applicant has conducted various trials, during which it was found that a fabric which is impregnated with a resinous product, subjected by pressing to crumpling and/or creasing and then light-cured, maintains its creases for a certain number of machine washes.

[0008] However, these creases tend to become less evident with time, especially if the garment is ironed. In addition, this method requires treatment of all or the majority of the fabric.

[0009] The purpose of this invention is to provide a procedure which enables creases to be aged in an evident manner, using processes of various kinds which age, colour or fade the surface line of the crease, and enables creases to be formed after the garment has been made up and has already undergone dyeing or

fading operations.

[0010] Another aim of the invention is to provide a procedure which produces fixed, well-defined creases that are not modified by machine washing or ironing.

[0011] This invention will now be described in detail, by reference to the annexed figures in which:

- figure 1 illustrates an example of trousers with creases obtained by the procedure in accordance with the invention
- figure 2 schematically illustrates a stage in the crease-making process.

[0012] The procedure in accordance with the invention involves:

- marking reference marks on the wrong side of the fabric in correspondence with the areas in which the creases are to be formed
- applying a layer of hot glue along the required line
- folding the fabric along the crease line to join the two parts of the fabric destined to constitute the crease
- sealing the crease.

[0013] When this operation is finished, it can be followed if required by aging and/or fading treatment using known techniques.

[0014] For this purpose, the garment is subjected to procedures such as stone-washing, scratching, brushing or chemical fading processes.

[0015] As the creases are raised, these actions, in particular mechanical actions, are performed most intensely on the edge of the crease, thus enhancing the required aging effect. It is usually sufficient to spread the layer of glue on two strips of fabric a short distance apart which, when joined, will constitute the base of the crease, as shown in figure 2, where the strips covered with adhesive material are indicated by the numbers 1 and 2.

[0016] It is now possible to join the fabric by gluing along the entire height of the crease, to obtain a more rigid crease. The rigidity of the crease can be increased if necessary by stitching or the like.

[0017] At the time of manufacture of the garment, it is necessary to take account of the size and number of creases to be made and the area in which they are located, and use a larger amount of fabric than normal in that area because the garment will become smaller after formation of the creases, and will not fit correctly unless an extra fabric allowance has been included. In other cases, the garment can be made from the same amount of fabric as when creases are not incorporated, by exploiting the deformations imparted to the garment when the creases are made to obtain original shapes.

[0018] The creases can be made by hand, by ironing or with a press, and can be straight or curved. The adhesive used can be a thermoplastic adhesive in the



case of hot joining, or an adhesive based on polyurethane and/or silicone in the case of cold joining.

[0019] The adhesive is spread on the wrong side of the fabric along the desired line, and the two adhesive-covered parts of the fabric are brought together at that point and permanently sealed. 5

[0020] At the end of this operation, a crease of the required length and height will be observed on the right side of the fabric.

[0021] Strips of thermoplastic material such as PVC or the like could also be clamped between two strips of fabric and then fused together to join them and produce the crease. 10

[0022] Creases can be made on garments before washing, dyeing, spraying, mechanical abrasion and/or aging, at an intermediate stage during these treatments or after the said treatments. 15

[0023] For example, garments made of denim can be subjected to mechanical aging by sanding, scratching or brushing, then machine-washed with chemical/physical treatments, and the creases made on the treated garment. 20

[0024] The creases can also be made before the other treatments are performed.

[0025] The result is that evident signs of wear appear on the creases, which is very important, because when garments with creases made by resining, creasing and light-curing of the resin are treated subsequently, the wear is much less visible, because in some cases the treatment does not greatly alter the surface of the fabric. 25 30

[0026] If it is preferred to obtain a treated garment that presents no signs of wear on the edge of the creases, it is sufficient to perform the aging and/or fading treatment before making the creases. 35

[0027] Unlike systems in which creases, pleats and the like are made by sewing, the system in accordance with the invention can be used to produce creases which cross seams and pass into areas such as the inside leg, hip, etc., and simulate the creases normally formed on garments by wear. 40

[0028] Creased garments may be subjected to treatment in rotating racks containing abrasive materials with or without water, subjected to total or partial immersion in baths of dyeing or fading chemicals, brushed or sprayed with neutral, transparent or coloured resinous products, scratched, sanded, brushed, etc. 45

[0029] When creases are formed on made-up garments, it is possible to insert an inflatable shape into the creased garment, perform treatments and then, after inflating the shape, perform aging treatments which will have a more marked effect at the creases, giving the garment a naturally worn look. 50

[0030] Alternatively, creases can be made on cut fabric before the garment is made up. An expert in the field could devise numerous modifications and variations, all of which should be deemed to fall within the scope of this invention. 55

## Claims

1. Method of forming raised creases on made-up garments and/or cut fabrics, characterised in that it includes the following stages:
  - application of a layer of adhesive material to the wrong side of the fabric in correspondence with the areas where the creases are to be made
  - folding of the fabric so as to bring the two inner surfaces of the crease on the wrong side of the fabric into contact with one another.
2. Method as claimed in claim 1, characterised in that it includes a subsequent stage of aging and/or fading treatment.
3. Method as claimed in the preceding claims, in which the layer of adhesive material is only applied in correspondence with two strips of fabric at the base of the crease.
4. Method as claimed in claims 1 and 2, in which the layer of adhesive material is applied to the entire inner surface of the crease.
5. Method as claimed in the preceding claims, in which a thermoplastic adhesive is applied hot.
6. Method as claimed in claims 1 to 4, in which a polyurethane- and/or silicone-based adhesive is used for cold gluing.
7. Method as claimed in the preceding claims, characterised in that the stages of treatment following crease-making involve a treatment such as stone-washing, scratching, sanding, brushing, fading and/or dyeing with chemical agents.
8. Method as claimed in any of claims 1 to 6, characterised in that an inflatable shape is inserted into the made-up garment, the said shape is inflated, and aging treatment is then performed on the creases.
9. Method as claimed in any of the preceding claims, characterised in that the creases are made on the cut fabric before the garment is sewn.
10. Garments made by the method as claimed in one or more of the preceding claims.



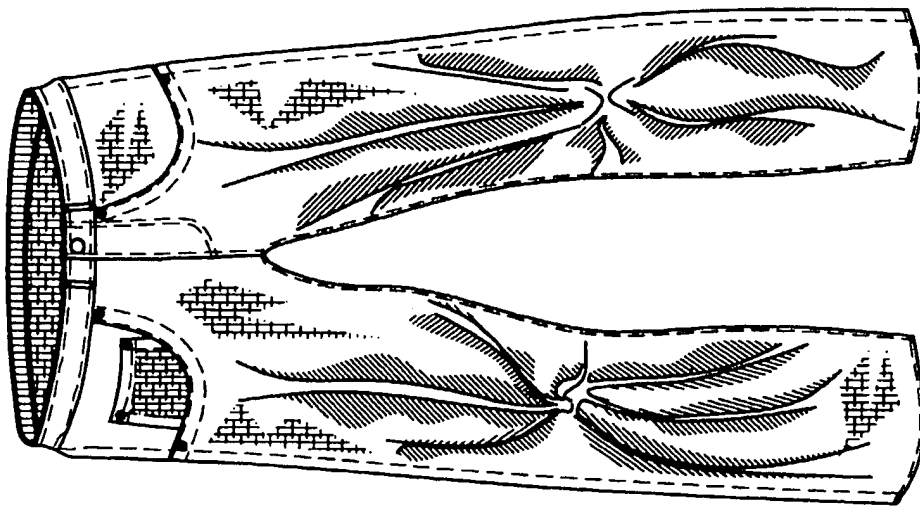


Fig. 1

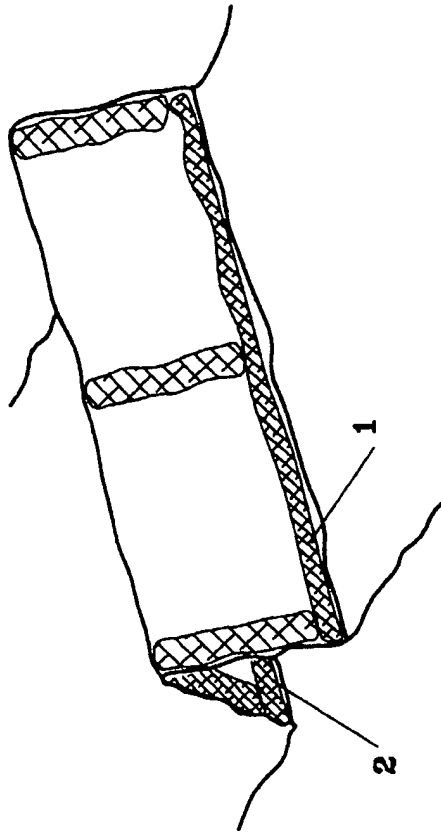


Fig. 2